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People, Places, and Perspectives: An Exploration of the Contextual Effects on Gender Work Role Attitudes

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PEOPLE, PLACES, AND PERSPECTIVES: AN EXPLORATION OF THE CONTEXTUAL EFFECTS ON GENDER WORK ROLE ATTITUDES

by

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Abstract

This research examines possible contextual effects upon gender role attitudes in the United States related to women's employment outside of the household. The study included individual-level data, mother's previous work status and mother's educational attainment, not previously analyzed in a hierarchical linear model and state-level data not previously investigated, particularly state median household income. The primary analyses focus upon the contextual effects of state-level educational attainment and income. Analyzing General Social Survey data from 1994 to 2002, these contextual data were not found to have an effect upon the gender work role beliefs. In fact, none of the examined state-level variables were statistically significant in detecting contextual effects. These findings contradict earlier research, which found the proportion of religious fundamentalists within a state to have a contextual effect upon gender role attitudes.

Chapter 1: Introduction

Despite significant gains in gender equality over the past several decades in the United States, disparities persist between men and women, especially in terms of employment. According to the 2000 United States Census, occupations held by males and females were quite distinct from one another. In fact, the top five occupations employing women included secretaries and administrative assistants; elementary and middle school teachers; registered nurses; cashiers; and retail salespersons, while men worked in occupations such as driver/sales workers and truck drivers; first-line supervisors/managers of retail sales workers; retail salespersons; laborers and freight, stock, and material movers; and carpenters (Fronczek & Johnson, 2003). In addition to the overall differences in occupations, men were more diversified than women throughout the occupation categories. More importantly, males' 1999 median income was greater than that of females for all of the United States Census occupation categories. Women fared best in construction, extraction, and maintenance occupations, making 90.6 % of what men in these occupations made in 1999; however, very few females worked such positions (Fronczek & Johnson). In the sales and office occupations, in which a larger percentage of women work, women made only 69.8 % of what men made in 1999 (Fronczek & Johnson).

While there are numerous factors that may explain these work related phenomenon, an underlying concern is that society has prescribed these positions for men and women, making it difficult for individuals of either gender to break out of their

respective roles and pursue occupations they might otherwise prefer. Such circumstances have detrimental economic consequences for women, making the issue of gender roles and their related attitudes worthy of increased social consciousness and action. Understanding factors that contribute to individuals' gender role attitudes will allow the opportunity for change toward more equality for women in the workforce and other areas of life. Such equality not only has possible benefits for females, but society in general, and especially those in households managed by single women.[1]

Although attitudes and beliefs do not automatically predict behavior, they are a significant driving force for one's actions. Research has continuously shown that a wide spectrum of characteristics related to demographic characteristics, socializing agents, and life experiences affects an individual's beliefs about what is appropriate behavior for women and men. Additionally, scholars have analyzed the possible effects of residence, including the region of the United States where one resides and whether the place is urban or rural, upon an individual's beliefs regarding gender roles (Moore & Vanneman, 2003; Rice, McLean, & Larsen, 2002).

While previous research has laid an informative foundation regarding gender role attitudes, questions and issues still exist surrounding the topic. First, the ways in which past researchers have defined the dependent variable, gender role attitudes, has not always been consistent. Furthermore, while numerous studies have analyzed possible effects of individual characteristics, few have examined potential contextual effects. The great majority of those that have, failed to utilize the most accurate modeling techniques, such as hierarchical linear modeling, when examining characteristics of residence as a contributing factor to gender role attitudes (Rice & Coates, 1995; Rice et al., 2002;

[1] Twenty-six percent of all families were headed by single mothers in 2000 (United States Census, 2002).

Rindfuss, Brewster, & Kavee, 1996).[2] Finally, there are a number of variables at both the individual-level as well as the state-level that have not been examined collectively from a comprehensive, contextual perspective. For example, although parental information such as the respondent's mother's prior work status and mother's level of education have been studied at the individual-level, it has not been included in a multilevel analysis with contextual data. Additionally, economic indicators such as state median household income have not been incorporated into any hierarchical linear models concerning gender role beliefs in the United States.

The research presented in the following pages addresses these criticisms of past research, ultimately offering a more comprehensive view of the factors contributing to gender role attitudes related to employment outside of the household. This particular project builds upon the findings of Moore and Vanneman (2003) by using updated state-level data on fundamentalism as well as encompassing state-level data not previously investigated, particularly economic factors such as median household income. Furthermore, this research takes a more comprehensive approach by including both African Americans and Whites in the sample.

[2] See Moore and Vanneman (2003) for a study utilizing hierarchical linear modeling.

Chapter 2: Literature Review

Theoretical Framework

Gender is one of a multitude of social constructs that members of a society have developed in order to organize and explain the world around them. "Gender is a fundamental organizing principle of social life that is continuously reconstructed through everyday routines, yet is resistant to change because gender as a system has been institutionalized into the social fabric of society" (Mennino & Brayfield, 2002, p. 229-230). An integral part of the social construction of gender is the set of roles by which people are expected to act. These gender roles are the collection of behaviors and attitudes deemed appropriate based upon whether one is female or male (Henslin, 2003). Examples of appropriate behaviors may range from activities related to politics, war, school subjects, or the toys with which boys and girls should play. While there are a number of ways in which these roles and attitudes can be discussed and categorized, gender role attitudes are commonly thought of or discussed in terms of opinions and beliefs regarding roles within the spheres of family and work (Harris & Firestone, 1998).

Historical Perspective and Trends

Gender roles are explicitly relevant to both time and place, particularly in the context of gender roles related to women's participation in the labor force and expectations within the home in the United States. In earlier decades in the United States, both parents as well as older siblings of the agrarian families shared the

responsibilities of caring for young children (Johnson, 1999). These childcare responsibilities were often directly tied to the overall household chores and socialization of the children. However, as the economy of the United States transitioned from an agriculturally based society to an industrial one, gender roles concerning employment and childcare within the family also transformed. As fathers and older siblings began to spend most the day away from the home due to work and school respectively, the well-being of preschool aged children as well as the household in general became primarily the responsibility of mothers, appointing their full-time position as "housewife" (Johnson; Rindfuss et al., 1996). This designation has historically been most prevalent among the urban middle class and upper working classes and "was institutionalized in the social policies of the New Deal era, the lower wage rates for female labor, and employer policies barring the hiring or retention of married women" (Rindfuss et al., p. 459). This particular type of division of labor within the family has become known as the "traditional" family in that the husband/father is the primary wage earner while the wife/mother is the homemaker.

Despite these prevailing perceptions, the percentage of women entering the workforce has increased considerably since the latter part of the 19th century (Rindfuss et al., 1996). While many of the female pioneers in the workforce were single and childless, labor force participation among women dramatically increased in the 1950s and 1960s, mostly due to older married women beginning work once their children had left home (Rindfuss et al.). As time progressed into the late 1960s, increasing numbers of women, including wives and mothers of young children, continued to enter the workforce (Brewster & Padavic, 2000). In fact, the percentage of women participating in the

workforce increased 22 percentage points from 36 % in 1960 to 58 % in 2000 (Clark & Weismantle, 2003).

In their cross-national research on attitudes toward women's employment, Panayotova and Brayfield (1997) identified four contributing factors to the increases of women in the labor force in the United States. Both the shift from an industrial to a service-based economy, as well as the expansion of the welfare state, increased the number of jobs available to women. Additionally, the combination of inflation and a rise of consumerism required more than one wage earner to maintain a family's standard of living. Lastly, the ideology of the women's movement in the 1960s advanced issues concerning gender equality, particularly in terms of employment opportunities. Other researchers have also acknowledged factors such as the women's movement and economic issues as provoking the influx of female workforce participation in the United States despite the well-established norms of the society (Rindfuss et al., 1996).

Women of different races and classes have historically experienced diverging patterns of labor force participation in the United States (Kane, 2000). This is presumably a significant contributing factor to the differences found in gender role attitudes between African American and White women, which are discussed later. African American women have experienced higher rates of workforce participation (Kane; Rindfuss et al., 1996) regardless of their marital status and whether they are raising a preschooler (Rindfuss et al.) than both White and Hispanic females. They have also tended to experience less economic dependence on men than women of other races (Kane). In addition to these employment trends, African American and Hispanic women

have been plagued with difficulties in securing full-time positions and with significantly higher unemployment rates than White females (Kane).

Although increasing proportions of women in general were entering the labor force, they remained the primary caretakers of the household and children. As Thorne (1987, p. 96) explained, mothers were "closely and unreflectively tied with children" (quoted in Mennino & Brayfield, 2002). After decades of establishing themselves in the workforce, women generally still spend more time on average caring for the household and children than men (United States Department of Labor, 2004). In fact, results of the 2003 American Time Use Survey conducted by the United States Department of Labor (2004) demonstrated that women spend more time on average than men on household activities (e.g., housework, cooking, yard, house, and vehicle maintenance, and pet care) and caring for and helping household members (children and adults) regardless of their employment status. For instance, childcare was the primary activity for women (employed and not employed) with children under the age of 18. Those surveyed spent an average of 1.7 hours per day primarily caring for their children, while the same duty occupied men's time (employed and not employed) less than half as much (0.8 hour) per day (United States Department of Labor). A disparity remains between the genders even when comparing employed women with employed men. Employed female respondents spent approximately 1.6 hours per day caring for and helping household members as their primary activity and employed men averaged 0.9 hour a day doing the same (United States Department of Labor). Additionally, women are still more likely than men to make decisions regarding when to enter and leave the labor force as well as their work

schedules based upon the needs of their families (Mennino & Brayfield). Such practices and strategic planning vividly illustrate the pervasiveness and strength of gender roles.

Attitude Trends

Not only have behaviors regarding gender work roles evolved over the decades, but so have the related attitudes and beliefs. Traditional gender role attitudes include beliefs such as the husband should be the wage earner and the wife should be the homemaker, preschool children suffer when their mother works outside of the home, the husband should not have to participate in household chores after working all day, and the husband is the primary decision maker of the household (Mennino & Brayfield, 2002). These attitudes were maintained before and even during women's large-scale movement into the workforce.

However, research has shown that attitudes about women working have dramatically changed toward more liberal views during the past several decades (Twenge, 1997). In fact, Fan and Marini (2000) noted changes in gender role attitudes regarding equal labor market opportunity as early as the late 1940s and 1950s. Many researchers have also found considerable shifts among both men and women toward more liberal gender work role views during the 1960s, 1970s, and 1980s (Cherlin & Walters, 1981; Pagnini & Rindfuss, 1993; Simon & Landis, 1989; Thornton, Alwin, & Camburn, 1983). By the late 1970s, the changes in attitudes surrounding gender roles in the home had caught up to the changes concerning equal employment opportunities for men and women (Fan & Marini; Thornton et al.).

Such trends have been well documented into the mid-1980s (Brewster & Padavic, 2000); however, there have been some conflicting findings while examining the changes in gender attitudes in the late 1980s and into the 1990s. Although studies have shown a continuing trend toward less traditional gender role attitudes, the rate of the change in attitudes differs between surveys. For instance, data from the General Social Survey (GSS) have illustrated a decline in the rate of change toward egalitarian gender role beliefs between 1985 and 1996 when compared to the rate of change between 1977 and 1985 documented by other researchers (Brewster & Padavic). Conversely, scores from the Attitudes Toward Women Scale (AWS) have not had a similar decrease, but have experienced a steady shift toward less traditional views between 1970 and 1995 (Twenge, 1997). Brewster and Padavic found the decelerated shift toward more liberal beliefs to be in the questions assessing the effect of a mother working upon her children.

Despite the divergent findings as to whether attitude changes slowed, research has found that the change in beliefs has generally occurred across all subpopulations. For instance, studies examining data from both the GSS and AWS surveys have found that both men and women's attitudes toward gender roles have become less traditional over the last few decades although women's attitudes have changed faster than men's (Harris & Firestone, 1998; Twenge, 1997). Harris and Firestone also found that African Americans, Whites, and Hispanics have all experienced greater acceptance of women taking less domestic roles and becoming less distinct in their respective opinions. In fact, multivariate research has illustrated that all women have gravitated toward more egalitarian viewpoints, even after controlling for a variety of individual characteristics and conditions (Harris & Firestone).

Researchers have also noted shifts in gender role attitudes across geographical regions, specifically in comparing the South to the rest of the country. For instance, Twenge (1997) has claimed that more egalitarian attitudes emerged during the 1970s and 1980s in both the South and non-South than in past years. Rice and Coates (1995) had similar findings when they examined gender role attitudes from GSS data ranging from 1972 to 1993. They concluded that such beliefs have migrated toward a more liberal point of view in both regions at a somewhat gradual and steady pace. In more recent research, Rice et al. (2002) examined gender role attitudes including beliefs toward women's employment, mother's employment, and women's role in politics from 1972 to 2000 using GSS data and concluded that while peoples' viewpoints in both regions are becoming more egalitarian, there is little evidence that the responses to these questions in the two regions are converging. Instead, the disparities between the regions have remained relatively constant for almost 30 years and the "southern lady" mindset is still alive and well in the South (Rice et al.).

A number of stimuli have been identified as possible contributors to the trends toward more egalitarian viewpoints. For example, increases in women's work force participation as well as increases in educational attainment are thought to have attributed to more liberal ways of thinking (Fan & Marini, 2000; Harris & Firestone, 1998). A number of researchers have also acknowledged that the "demographic process of population turnover" has also played a role in the liberalizing attitudes toward gender roles (Brewster and Padavic, 2000, p. 485; Farley, 1996; Rindfuss et al., 1996; Spain & Bianchi, 1996). Not only have individuals changed their gender role beliefs toward less traditional standpoints, cohort replacement has also contributed to the shift in attitudes

(Mason & Lu, 1988). In other words, older generations with typically more traditional gender role viewpoints expire and younger less traditional generations are left in the majority.

Past Empirical Research

Many scholars have examined possible factors that may affect a person's attitudes toward women working outside of the household. Despite the overall liberalizing trends over the past decades, researchers have found that such beliefs are still influenced by a myriad of variables. For instance, studies have discovered that demographic variables such as sex, race, age, marital status, and economic standing as well as characteristics closely related to socializing agents like the family, educational institutions, and religious institutions shape attitudes toward women working. Life experiences such as women's workforce participation and entry into parenthood have also proven to influence one's gender role attitudes. Additionally, research has illustrated the effects of residence, including the region of the United States where one resides and whether the place is urban or rural, on an individual's beliefs regarding gender roles.

Sex. Previous research has repeatedly shown females to have more egalitarian viewpoints than males, especially in terms of family roles for men and women (Fan & Marini, 2000; Jorgenson & Tanner, 1983; Mason & Lu, 1988; Thornton, 1989; Thornton et al., 1983). More specifically, men tend to hold more traditional attitudes toward the mother's role and the ramifications experienced by her children if a mother is employed outside of the home (Fan & Marini; Rice & Coates, 1995; Rindfuss et al., 1996). Brewster and Padavic (2000) examined attitudes related to women's participation in the

workforce and their role within the family by constructing a latent factor comprised of four GSS questions (1977-1996) and found that men had significantly more traditional responses concerning women's employment and the possible negative consequences borne by their children. The findings from Brewster and Padavic are particularly important to this project as the GSS items used to create the latent factor for their research is very similar to the ones used in this study.

Race. Gender role attitude research has also focused upon the possible effects of race, with the majority of research centering upon comparisons of African Americans and Whites. There is somewhat inconsistent support that significant disparities exist between the gender role viewpoints of African Americans and Whites, as a number of studies have not found statistically significant differences between the two subgroups (Kane 1998, 2000; Kluegel & Smith, 1986). Additionally, other studies have illustrated statistical significance, but discovered conflicting results depending upon the operationalization of the dependent variable, gender role attitudes, or whether the gender roles pertain to a woman or a mother. Some researchers have claimed that while African Americans may hold more liberal beliefs in the sphere of women's labor force participation than Whites, African Americans are more traditional than Whites on other aspects of gender role attitudes, such as decision making and leadership within the household (Kane, 2000). Rice and Coates found that African Americans were more egalitarian than Whites in their responses concerning employed mothers, but they were more traditional in terms of employed women. Rindfuss et al. (1996) presented similar findings in that African Americans were less likely than Whites to agree that preschoolers are harmed by their

mother's employment. Rice and Coates (1995) found other contradictory findings in their research such as African American respondents were more apt to claim they would vote for a female president, while they tended to answer in a more conservative manner to other politically related questions such as whether "most men are better suited emotionally for politics than most women" (p. 754).

A number of studies have also discussed possible differences in regards to the interaction of race and gender; however, many of these results have also been inconsistent. While some studies have illustrated that African American women take a more egalitarian stance than White women (Fan & Marini, 2000; Harris & Firestone, 1998), others find no significant difference between the two groups of women (Kane, 2000; Mason & Lu, 1988; Ransford & Miller, 1983). Research comparing differences between African American and White men are no more coherent. Although some results have indicated that African American men are more supportive of women working outside of the home than White men (Blee & Tickamyer, 1995; Fan & Marini; Kane), separate analyses have reported that African American and White men do not have significantly different attitudes concerning this issue (Kane). Other research examining these factors suggests that African American men and women have more similar viewpoints than do White men and women (Kane).

Age. Studies have also examined possible associations between age and gender role beliefs and have indicated a positive relationship between the two variables; the older the individual, the more traditional he or she is concerning gender role attitudes. For example, several studies have found that both young men and women tend to have

more liberal responses on the AWS scale than older respondents (Twenge, 1997). Similarly, a number of studies using GSS samples of both women only and men and women have demonstrated the same positive influence (Harris & Firestone, 1998; Moore & Vanneman, 2003; Rice & Coates, 1995; Rindfuss et al., 1996; Wright & Young, 1998).

Some researchers have suggested that women's role attitudes are dependent upon their life cycle with women maintaining more traditional views when they are rearing their children and more liberal beliefs when they are not (Harris & Firestone, 1998). Concurrently, researchers have examined age more closely and tested for nonlinear effects on gender role attitudes. Nevertheless, in their examination of women's gender role attitudes, Harris and Firestone did not find any evidence to support a nonlinear relationship between age and gender role attitudes.

Marital status. Marital status has also been shown by a number of studies to be statistically significant in terms of impacting a person's gender role beliefs. Some research has found that married persons possess more traditional attitudes toward gender roles than those never married or divorced (Fan & Marini, 2000; Mason & Lu, 1988; Morgan & Walker, 1983). For instance, divorced respondents were significantly more liberal in their gender role responses than those married among a GSS sample (1985 to 1996) of white men and women (Moore and Vanneman, 2003). As Johnson (1999) has noted, divorcees are likely to have more liberal viewpoints "because such arrangements do not promote a traditional, stable, sex-role division of labor" (p.50).

Yet, not all research findings have been consistent with these results. Both married and those never married female respondents of the 1974 to 1994 GSS were more

likely to have more traditional gender role views than those divorced; however, only those married were significantly different than divorced respondents when the data was divided into two decades, 1974 to 1984 and 1985 to 1994 (Harris & Firestone, 1998). Furthermore, Rice and Coates (1995) found that beliefs regarding women and mothers' employment and place in the home did not vary significantly between married and unmarried respondents. These particular results may differ due to the operationalization of marital status into a dichotomous variable. When marital status is defined in more detail, the results are somewhat different. For example, in examining one of the same GSS questions as Rice and Coates (1995), the possibility of negative ramifications suffered by preschoolers whose mothers are employed outside of the household, Rindfuss et al. (1996) did not discover a significant disparity between married and never married respondents, but found that those who were formerly married were less likely than others to agree that preschoolers suffer due to their mother's working.

Some research has addressed a possible correlation between spouses' gender role attitudes as well as other spousal characteristics and concluded that some have an association with individuals' views toward women's roles inside and outside of the household. For instance, Johnson (1999) illustrated that respondents' gender role beliefs related to childcare were positively correlated with those of their spouses or partners. Previous studies have also documented a connection between a wife's employment status and her husband's viewpoints regarding roles for men and women, with husbands whose wives work outside of the household being more likely to hold egalitarian beliefs than those whose wives do not have a job outside of the home (Fan & Marini, 2000; Mason & Lu, 1988).

Socio-economics. Research has shown that gender role attitudes vary according to individuals' socio-economic status as well. Such studies have noted that working class families are more inclined to strongly distinguish between the genders than those of the middle class (Harris & Firestone, 1998). Concurrently, analyses utilizing GSS survey samples of both women only and Whites only have found a positive association between family income and individual's gender role attitudes, with higher income households holding less traditional views (Harris & Firestone; Moore & Vanneman, 2003).

Parental and family characteristics. In addition to general demographic characteristics, some researchers have found variables related to agents of socialization that affect one's personal beliefs regarding male and female gender roles. A number of parental variables influence their child's thoughts about what is and is not appropriate for men and women. For example, indicators measuring parental work experience, education, and religion have all been found to be statistically significant in determining an individual's attitudes. According to Wright and Young (1998), parental gender role attitudes remain robust predictors of children's beliefs, even after considering other variables. These findings are not startling as "in one of the earliest statements of the gender display approach, Goffman referred to the household as a 'socialization depot' in which children observe the way that interactions between family members communicate a set of meanings about gender" (Goffman, 1977, p. 314 cited in Cunningham, 2001, p. 112).

Respondents whose mothers worked while they were children have been found to have more egalitarian views toward women working outside of the household than

persons whose mothers did not work for pay (Fan & Marini, 2000; Harris & Firestone, 1998; Wright & Young, 1998). For instance, Rindfuss et al. (1996) examined responses to whether preschool children suffer if their mothers are employed and found that those whose mother participated in the labor force were less supportive of the possibility of negative consequences. Additionally, in their multivariate research of gender role attitudes, Wright and Young demonstrated that maternal employment status was one of the strongest variables in their model predicting respondents' views.

Respondents who had highly educated mothers or parents have also been found to have more egalitarian views toward women working outside of the household than persons whose mothers had fewer years of formal education (Fan & Marini, 2000; Harris & Firestone, 1998; Johnson, 1999; Wright & Young, 1998). Moreover, Fan and Marini claimed that parents' level of education as well as the mother's labor force participation might be stronger influences than the race of an individual.

Education. Educational institutions are an additional source of socialization. Evidence supports the observation that those with more education are more likely to subscribe to more liberal viewpoints regarding gender roles (Harris & Firestone, 1998; Moore & Vanneman, 2003; Rice & Coates, 1995; Rindfuss et al., 1996). More specifically, Rindfuss et al. have reported that respondents with higher levels of educational attainment were less likely to agree that children suffer as a result of their mothers being employed outside of the home. Harris and Firestone found in researching 1985 to 1994 GSS data of female respondents, however, that educational attainment had a nonlinear relationship with beliefs surrounding gender roles. While the attainment of a

college education increases the likelihood of less traditional viewpoints, there appears to be a threshold at the highest levels of education where these effects no longer increase, but begin to recede (Harris & Firestone).

Religion. A third socializing agent identified in the gender role attitudes literature is religion. A number of issues surrounding religion have been examined including religious denomination, the frequency of attending places of worship, and the level of fundamentalism a religious preference or denomination is perceived to be. Generally, those with little or no religious affiliation have been found to hold more egalitarian beliefs than those more religiously active (Harville & Rienzi, 2000). When studying attitudes toward employed women, Harville and Rienzi found significant differences between Protestants and Catholics, who were in turn different from Jews and nonreligious persons. While Rindfuss et al. (1996) noted that Catholics were significantly less apt than Protestants to agree that preschoolers are harmed if their mothers enter the work force, other studies have found Jews to be more egalitarian than Protestants and Catholics (Mason & Lu; 1988; Thornton & Freedman, 1979). Moore and Vanneman (2003) had somewhat differing findings from their multivariate analysis in that Fundamentalist Protestants were the most conservative group. These findings may differ, however, due to Moore and Vanneman's differentiation between fundamentalist, moderate, and liberal Protestants. Along with Moore and Vanneman, other researchers have also identified frequency of church attendance to be positively associated with gender role attitudes: the more often one attends, the more likely he or she is to hold more traditional values (Brewster & Padavic, 2000; Rindfuss et al.).

Contrary to these findings, a longitudinal study of youth aged 14 to 22 determined neither religious affiliation nor religious attendance were statistically significantly related to gender role attitudes, which was measured as a latent factor (Fan & Marini, 2000). The researchers examined data from the 1979 to 1987 National Longitudinal Survey of Youth that asked eight questions concerning wives' employment. Fan and Marini (2000) attributed their findings to either a change in the religious doctrine regarding wives' duties taught in religious organizations or the possibility that such teachings no longer have an effect upon youth.

Personal life experiences. Personal life experiences have also been found to shape an individual's beliefs and attitudes toward gender roles. For instance, nontraditional gender role attitudes have been found to be more prevalent among employed women than those not working (Fan and Marini, 2000; Harris & Firestone, 1998; Mason & Lu, 1988; Rice & Coates, 1995).

Study results have also illustrated a relationship between life events, such as becoming a parent, and one's beliefs surrounding the roles of men and women. Harris and Firestone (1998) found that women who have children under the age of 6 reported more traditional ideologies. Conversely, the number of children under the age of 17 was not statistically significant in Moore and Vanneman's (2003) hierarchical linear model. Again, these seemingly contradictory results may be due to the operationalization of the independent variable. More specific to this example, the differences in the ages of children included in each variable could be a factor. In their study, Fan and Marini (2000) found that becoming a parent and subsequent births were associated with shifts

toward more traditional viewpoints for both men and women. Similarly, in examining two waves (1987 to 1988 and 1992 to 1994) of respondents living in sexual unions from the National Survey of Families and Households (NSFH), Johnson (1999) noted an association between a child's birth between waves and changes toward more traditional views regarding the offspring's care. Johnson has suggested that the increased demand of raising more children may have "required role specialization between their parents" (p. 64).

Residence. Finally, many scholars have examined potential relationships between characteristics related to the individual's residence and his or her gender role ideology. Some of the most common inquiries into residency have been the area's urban/rural distinction, metropolitan/non-metropolitan category, as well as the region of the United States, primarily contrasting the South to the rest of the country. Previous research confirms particular residential traits generally affect one's gender role beliefs and attitudes. However, some findings have been contradictory, possibly due to the way in which the dependent as well as the independent variables were operationalized. For instance, while some scholars have noted that persons living in rural areas tend to possess more traditional views toward the roles of men and women (Harris & Firestone, 1998; Rice & Coates, 1995), others have indicated that the metropolitan status of a person's residency does not shape their gender role ideology (Johnson, 1999). In their multivariate analyses of GSS data from 1972 to 1993, Rice and Coates defined individuals' residency with four rural/urban categories and found respondents from rural

regions to be significantly more conservative than others when asked about women and mothers' employment outside of the home.

Conversely, neither Cotter, DeFiore, Hermsen, Kowalewski, and Vanneman (1996) nor Johnson (1999) found the metropolitan status of an area to have an effect upon respondents' beliefs related to women's workforce participation. Similarly, metropolitan status proved to be insignificant in Moore and Vanneman's (2003) hierarchical model examining gender roles. According to Johnson, economic stresses generally associated with non-metropolitan areas may have led people to more readily accept nontraditional viewpoints regarding women working. Also, as previously mentioned, these authors constructed the metropolitan item into a dichotomous variable, possibly explaining the diverging results from Rice and Coates (1995).

Most studies examining the effects of residency have primarily examined Southern and non-Southern regions and several have discovered traditional gender role attitudes to be more prevalent in the South than in the non-South (Moore & Vanneman, 2003; Rice et al., 2002; Twenge, 1997). However, as Rice and Coates (1995) discovered, these effects vary according to the particular dimension of gender roles under examination. Upon their analysis, they concluded that "Southerners ... tend to hold somewhat more conservative views when it comes to the desirability of women working outside of the home, but Southerners are just as likely as non-Southerners to feel that employed women can be good mothers" (p. 754). Similar to Johnson's (1999) reasoning of the lack of significant disparities between metropolitan and non-metropolitan residents, Rice and Coates reason that the parallel beliefs asserted by Southerners and non-Southerners may be a result of the large number of mothers that are employed in the

South. Respondents may also find it more difficult to respond in a conservative manner for fear of making judgments upon working mothers (Rice & Coates). In their hierarchical model, Moore and Vanneman found that residents of metropolitan areas did not respond significantly differently to questions regarding gender roles than non-metropolitan residents.

Contextual Theory

There has been debate among some scholars as to whether these regional effects are contextual or simply a result of the characteristics of the individual residents. According to Moore and Vanneman (2003), until their research, region had been the only contextual variable examined in regard to gender attitudes in the United States. Huckfeldt (1986, p. 13) described contextual theory as "instances in which individual behavior is affected by the presence of a social property in a population regardless of whether the individual possesses the property in question" (cited in Moore & Vanneman, 2003, p. 115). For instance, while research has demonstrated that more affluent people tend to hold more egalitarian viewpoints toward women's role outside of the household, low-income individuals may hold similar beliefs due to social influences. Such social influences may include the local presence of women in the workforce, local media, and social interactions with liberal, affluent residents.

Books and Prysby (1988) contend there are three ways in which such contextual effects may occur: social interactions with people with similar thoughts and beliefs, conformity to existing norms, and the dissemination of information. While a number of state-level variables were selected for this particular research, educational achievement and economic factors are the central contextual-level concepts. People of particular

economic and/or educational backgrounds may tend to interact primarily with people of similar status, which can aid in the affirmation of their views toward women's work roles and ultimately in the reproduction of those beliefs. Needless to say, individuals of varying economic and educational status do interact with one another during everyday activities, which can lead to the dissemination of ideas.

The viewpoints of more affluent and/or educated individuals may be transmitted to those with diverging views more frequently in other ways. For instance, managerial and executive positions tend to be occupied by individuals with relatively higher levels of educational attainment. Holding such occupational positions, particularly in media, politics, and education provide significant opportunities for beliefs including those regarding women's work roles to be disseminated (Moore & Vanneman, 2003). Consequently, once exposed to such ideas, individuals who may not otherwise have subscribed to such viewpoints (i.e., low-income and/or less educated individuals) may then accept them.

Similarly, if the proportion of highly educated women is relatively high within a region, then they may be more likely to be employed outside of the home and to fill prestigious occupational roles. "Individuals may be influenced by their direct observations of social structures surrounding them" (Moore & Vanneman, 2003, p. 119). People's ideals about women working outside of the household may change from more traditional to more liberal ways of thinking if they witness successful women in the workforce. Conversely, a lack of women in nontraditional employment positions may confirm more traditional beliefs or even persuade individuals to exchange more liberal views for more conservative attitudes.

A number of studies researching contextual effects utilize contextual variables added onto individual-level data (Moore & Vanneman, 2003). However, such modeling underestimates the standard errors of the contextual variables (Bryk & Raudenbush, 1992), possibly distorting the results. Hierarchical linear modeling adjusts for this by simultaneously estimating the full individual-level and contextual-level models (Moore & Vanneman).

Utilizing hierarchical linear modeling, Moore and Vanneman (2003) found that individuals within states with higher proportions of fundamentalists were more likely to hold more traditional gender role attitudes even after controlling for individuals' religious affiliation as well as other individual and state-level variables. Because fundamentalism has been proven to have differing effects on Blacks and Whites, Moore and Vanneman examined GSS samples of Whites only. The proportion of females participating in the workforce was the only other state-level variable that remained statistically significant in the multilevel analysis (Moore & Vanneman).

Although they did not utilize hierarchical linear modeling, Banaszak and Plutzer (1993) identified contextual effects in relation to feminist attitudes in Western Europe. For instance, they found regional levels of women's educational achievement to be positively associated with men's and women's feminist attitudes, especially among those who have less education (Banaszak & Plutzer, 1993).

Other state-level data has been included in this research primarily due to findings at the individual-level. For example, state median household income is analyzed because previous research has found income to be significant at the individual-level.

Critique of the Literature

While these findings have provided great insight into gender role attitudes, questions and issues exist that have yet to be answered. First, there is concern as to the ways in which past researchers have defined the dependent variable: gender role attitudes. While a number of studies have examined the issues surrounding gender roles, there has been no real consistency as to which questionnaire items should be considered for analysis. For instance, some researchers have utilized a combination of gender role questions, including items that ask about women's role in politics, the home, and workforce. Although all of these items may fall under the general category of gender role attitudes, they deal with separate dimensions of such attitudes and have the potential of being perceived differently by individuals. Therefore, it would be less convoluted to examine the different areas of gender role beliefs independently, especially in constructing factor analyses.

Some researchers such as Rice and Coates (1995), Rice et al., (2002), and Brewster and Padavic (2000) chose to approach the research in this way. However, even their analyses differ as Brewster and Padavic constructed a latent factor from GSS items while Rice and colleagues in both studies analyzed each item individually.

Furthermore, while numerous studies have analyzed possible effects of individual characteristics, few have examined potential contextual effects. In fact, another critique of past research is the failure to utilize the most accurate modeling techniques, such as hierarchical modeling, when examining the region of residence as a contributing factor to gender role attitudes. The only study found to have examined gender role attitudes in the United States with hierarchical linear modeling was primarily concerned with the

proportion of fundamentalism at the state-level (Moore & Vanneman, 2003). Using GSS data from White respondents, the authors found that the larger proportion of fundamentalists within a state, the more traditional the viewpoints regarding women's roles. These results illustrated a contextual effect that exists above and beyond the religious affiliation of the individuals (Moore & Vanneman).

Despite these interesting findings, there are a number of variables at both the individual-level as well as the state-level that were not included in the modeling of this particular study. For example, parental data such as the respondent's mother's prior work status and mother's educational attainment were not considered in the individual-level of modeling and economic indicators were not included in the state-level modeling.

The research presented in the following pages adds another piece to the puzzle by addressing aforementioned criticisms of past research, ultimately offering a more comprehensive view of the factors contributing to gender role attitudes related to employment outside of the household. This particular study builds upon the findings of Moore and Vanneman (2003) by using updated data on the percent of fundamentalists within each state as well as including state-level data not previously investigated, particularly economic factors such as state median houschold income. Furthermore, this research takes a more comprehensive approaeh by including African Americans and Whites in the sample.

The primary goal of this research is to determine whether the percent of residents who have obtained more than an associate's degree within a state and the state median household income have contextual effects on gender work role attitudes within the state. And if there are contextual effects, I will investigate the nature of the relationship

between these state-level variables and gender work role attitudes within a state. While there are other variables included in the analyses, these primarily serve as controls.

Hypothesis 1: The higher the state median household income, the more likely that individuals within that state will have egalitarian views toward women's work roles.

Hypothesis 1a: The relationship will remain significant when controlling for other state-level variables and individual-level variables including income.

Hypothesis 2: The higher the percent of residents with more than an associate's degree within a state, the more likely that individuals within that state will have egalitarian views toward women's work roles.

Hypothesis 2a: The relationship will remain significant when controlling for other state-level variables and individual-level variables including education.

Chapter 3: Data

Data Sources

Individual data for this multilevel analysis were obtained from the 1994 – 2002 GSS. "The GSS is an almost annual, 'omnibus,' personal interview survey of U.S. households conducted by the National Opinion Research Center" (National Opinion Research Council, 2004). The survey sample consists of adult residents from the 50 states and the District of Columbia, with the exception of Idaho, Maine, Nebraska, New Mexico, and Nevada. The survey was first conducted in 1972 and covers a wide variety of topics and variables, many of which have been replicated over the years (National Opinion Research Council).

A total of 8,527 White and African American respondents residing in 38 states (including the District of Columbia) were asked the specific gender role questions in the 1994 to 2002 GSS surveys used in this study.[3] Modifications were made to several variables in an attempt to preserve as many cases as possible. For instance, income was imputed for individuals missing such data,[4] a dummy variable for missing data was included with the religious affiliation set of dummy variables, an additional variable was created indicating individuals that had missing data for their mother's educational attainment, and cases missing data for their mother's education were assigned a -1 in the original variable. Cases with missing data on one or more of the examined dependent or

[3] This figure excludes Alaska residents, as this particular state is not included in the state-level religion data, which is described next.
[4] The imputation technique is explained under "Individual-Level Independent Variables."

independent variables not discussed above were deleted and a final sample of 7,689 was retained for analyses. No one answering the relevant gender role questions resided in Hawaii, Iowa, New Hampshire, Rhode Island, Utah, West Virginia, or Wyoming at the time of the survey.

State-level data for this project originated primarily from the 2000 United States Census Summary File 3 - sample data. The raw numbers were extracted utilizing the American FactFinder database available online[5] and calculated into percentages for analysis. The state-level religion data was obtained from the American Religious Identification Survey (ARIS) (originally the National Study of Religious Identification) (Kosmin, Mayer, & Keysar, 2001). The ARIS was conducted in 2001 with a random sample size of over 50,000 adults residing in the 48 contiguous states including the District of Columbia and primarily provides information on respondents' religious affiliation based on self-identification.[6] This research followed the same definition of fundamentalist as Moore and Vameman (2003) including the following denominations: Assembly of God, Baptist, Church of Christ, Church of God, Evangelical, Jehovah's Witness, Mormon, Pentecostal, and Seventh Day Adventist. Moore and Vanneman (2003) also included Holiness/Holy, Nazarene, and Mennonite denominations in their definition; however, these were not listed in the available current data.

[5] http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_lang=en&_ts=

[6] The figures for Michigan were a concern for this analysis as the total percentages added to significantly more than 100. The author explained through email correspondence that the data was preliminary and it was most likely due to a misprint. For this reason, data from the 1990 survey was substituted for this particular state. Data from 1990 were obtained from *One Nation Under God: Religion in Contemporary American Society.*

Dependent Variable: Gender Attitudes

There is a core set of gender role attitude questions (total of eight) from the GSS that have been asked since the 1970s. A couple of issues guided the decision as to which GSS items would be used for this analysis. First, while a number of studies have utilized a variety of combinations of the eight gender role attitude items from the GSS, this study was primarily concerned with gender roles centering on work and household responsibilities. Second, some of the gender attitude related questions were deleted from the GSS beginning in 2000, which resulted in fewer items available for construction of the dependent variable through the factor analysis. A decision between using older data with more questions or newer data with fewer items had to be determined, and it was decided to use a smaller variable set with more recent data rather than a larger set of questions. In the end, this research utilized a combination of three GSS questions to form the dependent variable pertaining to attitudes toward women working outside of the home (see Table 1).

The responses for each of the items were presented in a scale from Strongly Agree to Strongly Disagree. The item asking whether "a working mother can establish just as warm and secure a relationship with her children as a mother who does not work" was recoded so that the responses ran from most traditional to least traditional. All "don't know" responses were recoded into missing. A principal component analysis was conducted on the three relative questionnaire items from the 1994 to 2002 GSS to test whether they were congruent measures for attitudes toward women's roles at home and in the workforce. The summary scale ranged from 3 to 12, with 3 representing the most traditional and 12 representing the most liberal responses on the three items. All of the

variables loaded significantly on a single unrotated factor (factor loadings are listed in Table 1). The reliability test resulted in a Chronbach's alpha, α =0.731, which is generally deemed acceptable within the field.

Table 1

Gender Role Items and Factor Loadings: GSS 1994 – 2002

GSS Question	Factor Loading
A working mother can establish just as warm and secure a relationship with her children as a mother who does not work. [FECHLD]	0.798
A preschool child is likely to suffer if his or her mother works. [FEPRESCH]	0.840
It is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family. [FEFAM]	0.785

Individual-Level Independent Variables

The primary individual-level independent variables for this research were education and income. Education was measured as the number of years of school completed. Income was operationalized as the log of family income in constant dollars (1986). Missing income was imputed by regression imputation utilizing respondents' sex, race, and education. Both of these independent variables were standardized. The descriptive statistics for these individual-level variables are provided in Table 2.

Table 2

Individual-Level Variables and Descriptive Statistics: GSS 1994 – 2002 (N=7,689)

Variable	Operationalization	Mean	Std. Dev.	Min.	Max.
Education (standardized)	Highest year of school completed	0.00	1.0	-4.57	2.30
Income (logged and standardized)	Family annual income calculated into 1986 dollars	0.00	1.0	-4.46	1.93

Individual-Level Control Variables

A relatively large number of individual-level control variables were used in the multilevel analysis based upon past research. Preliminary analyses were conducted to select the most appropriate variables and resulted in some control variables being omitted from future analyses or measured differently. For example, individual regressions between the dependent variable and race led to only African Americans and Whites being included in the final analyses because other racial categories were not statistically different from African Americans and Whites and there were not enough respondents of other races for adequate analysis.

Preliminary multiple regression analyses and collinearity tests found that age, education, age squared, and education squared had extremely high Variance Inflation Factor (VIF) scores and all except age squared were not statistically significant. Once the squared variables were removed from the multiple regression model, the VIFs for age and education dropped well below the threshold. Therefore, age squared and education squared were dropped from further analyses.

Additionally, multiple regressions were run between the gender work roles factor and varying individual-level religious measures. The two religious variables included

one measured as a series of dummy variables with categories of Catholic, Jewish, None, Other, and Protestant (omitted variable) and the other as GSS's categorization of the respondent's religious affiliation as fundamentalist, moderate, or liberal. The tests found Catholics, Others, and those with no religious affiliation not to be statistically significant at the 0.05 α level in comparison to Protestants in predicting the dependent variable when controlling for the fundamentalism of the religious affiliation. The fundamentalism variable remained statistically significant with and without the religious affiliation variable in the model. Since the state-level data concerning religion chosen for this project was the proportion of fundamentalists, the more similar individual-level religious variable of fundamentalism was included rather than the religious affiliation itself.

The control variables included in the final analyses were: sex, race, age, work status, missing family income, marital status, young children, categorization of religious affiliation, church attendance, respondent's mother's work status when respondent was growing up, respondent's mother's education, missing mother's education, respondent's urban/rural status of residence, and dummy variables for survey year. Age was standardized for easier interpretation. These variables, the way in which they are operationalized, and their descriptive statistics are presented in Table 3.

Table 3

Individual-Level Control Variables and Descriptive Statistics : GSS 1994 – 2002 (N=7,689)

Variable	Operationalization	Mean	Std. Dev.	Min.	Max.
Sex	Male = 1; Female = 0	0.43	0.49	0.00	1.00
Race	White = 1; African American = 0	0.85	0.36	0.00	1.00
Age (standardized)	Years at time of survey	0.00	1.00	-1.63	2.52
Work status	If woman and working or if man and his wife is working = 1; all others = 0	0.48	0.50	0.00	1.00
Missing income	If missing family income = 1; all others = 0	0.11	0.32	0.00	1.00
Marital status	Dummy variables for: (married is omitted)				
	widowed	0.10	0.30	0.00	1.00
	divorced	0.15	0.36	0.00	1.00
	separated	0.04	0.19	0.00	1.00
	never married	0.23	0.42	0.00	1.00
Young children	Number of household children under the age of six	0.21	0.54	0.00	4.00
Categorization of religious affiliation	Dummy variables for: (Fundamentalist is omitted)				
	Moderate	0.36	0.48	0.00	1.00
	Liberal	0.28	0.45	0.00	1.00
	Missing	0.05	0.21	0.00	1.00
Church attendance	Scale 0-never to 8-several times a week	3.68	2.71	0.00	8.00
Mother's work status when respondent was growing up	If lived with mother or female substitute and she was employed=1; all others = 0	0.60	0.49	0.00	1.00
Mother's education	Highest year of school mother completed	9.72	5.33	-1.00	20.00
Missing mother's education	If missing mother's education = 1; all others = 0	0.14	0.34	0.00	1.00
Respondent's urban/rural status of residence	Dummy variables for: (rural is omitted)				
	City and suburbs of 12 largest MSAs	0.18	0.39	0.00	1.00
	City and suburbs of 13-100 largest MSAs	0.30	0.46	0.00	1.00
	All other urban	0.41	0.49	0.00	1.00
Survey year	Dummy variables for: (2002 is omitted)				
	1994	0.23	0.42	0.00	1.00
	1996	0.27	0.44	0.00	1.00
	1998	0.20	0.40	0.00	1.00
	2000	0.20	0.40	0.00	1.00

State-Level Independent Variables

Similar to individual-level independent variables, state-level independent variables related to this research include the log of state median household income and percent of males and females 25 years old and older that have received more than an associate's degree. The descriptive statistics of these two variables are provided in Table 4.

Table 4

State-Level Variables and Descriptive Statistics : GSS 1994 – 2002 (N=38)

Variable	Mean	Std. Dev.	Minimum	Maximum
State median household income (logged)	4.61	0.07	4.50	4.74
Percent population (25+ years old) received more than an associate's degree	24.44	5.06	16.66	39.07

State-Level Control Variables

As with individual-level variables, exploratory analyses were conducted with state-level variables to properly select the most appropriate variables for the model. Many of the possible state-level control variables were selected based upon prior research, including percent of African-Americans, percent of urban population, percent of female labor force participation, percent of fundamentalists, percent divorced, percent never married, and Southern status (former Confederate States).[7] However, collinearity tests found that the percent of African-Americans and percent of residents never married to have relatively high VIF of 10.121 and 10.407 respectively. Once these variables were

[7] Southern status was examined using both former Confederate states as well as by the United States Census definition. Both were statistically significant in bivariate analyses.

removed, the VIF for all remaining independent variables were at acceptable levels. Additionally, the percent of African Americans was not found to be statistically significant in a bivariate analysis with the gender work role factor variable.[8] While the VIF for percent of divorced was at an acceptable figure, the mean of this variable across states was only 9.89 with a standard deviation of just 1.18. Such a limited distribution raises question as to whether this variable would actually improve the model. As a result, the percent of African-Americans, percent of divorced, and the percent of never married within the state were not included in the final analyses. The state-level control variables along with their descriptive statistics are presented in Table 5.

Table 5

State-Level Control Variables and Descriptive Statistics : GSS 1994 – 2002 (N=38)

Variable	Mean	Std. Dev.	Minimum	Maximum
Percent of urban population	72.99	14.85	38.20	100.00
Percent female (16+ years old) labor force participation	58.58	3.54	52.77	66.05
Percent of fundamentalists	25.29	15.30	6.00	63.00
Southern status (former Confederate States)	0.29	0.46	0.00	1.00

[8] p-value = 0.421

Chapter 4: Data Analyses and Results

Analytic Strategy

HLM 5.05 was the primary computer program in which the data was analyzed. This statistical package allows researchers to analyze data characterized by a nested structure. For example, this project examines survey data from individuals that are nested within states. "With hierarchical linear models, each of the levels in this structure is formally represented by its own submodel. These submodels express relationships among variables within a given level, and specify how variables at one level influence relations occurring at another" (Bryk & Raudenbush, 1992, p. 4). The HLM program helps researchers to estimate effects within individual units, create and test hypotheses regarding cross-level effects, and partition the variance and covariance components between the levels more accurately (Bryk & Raudenbush). The HLM program was selected for this research as the nesting nature of the data violates ordinary least squares assumptions such as that outcomes of individuals within states are independent of one another. Hierarchical linear modeling corrects for inconsistent standard error estimates generally produced by inefficient modeling.

Preliminary Analysis

Preliminary data analyses included a comparison of respondents who did and did not respond to the gender factor variable. Prior to the deletion of cases missing the dependent variable (n=456), appropriate chi-square or ANOVA tests were run between

those who did and did not respond to the dependent variable against each of the individual-level independent variables to determine the extent of any possible biases. Indeed, comparisons between the two groups of respondents were found to be statistically significantly different on a number of characteristics. For instance, people of differing age, educational attainment, mother's educational attainment, and frequency of church attendance all tested significantly on ANOVA runs at $\alpha = 0.05$. Additionally, chi-square tests resulted in positive relationships between those not having data for the dependent variable and some dichotomous independent variables. For instance, men, widowers, those other than employed females or husbands with working wives, those other than who lived with their mother who was employed, those missing family income, those missing information on their mother's educational attainment, and respondents residing in a suburb or city of one of the 12 largest Metropolitan Statistical Areas (MSAs) were less apt to respond to the items that made up the dependent variable than their counterparts on the basis of chi-square tests. These findings warrant a caveat of possible self-selection biases present in the sample. Because respondents with these particular characteristics were less likely to answer the dependent variable items than others, they will not be fairly represented, which may result in skewed findings.

Primary Analysis

The first step in the multilevel analyses was to conduct an ANOVA test for the outcome variable in order to ascertain whether gender role attitudes were significantly different between the states. The resulting p-value was 0.000, meaning the null hypothesis that the states are similar was rejected. In other words, there is significant

variance among the states in regard to the dependent variable. However, the intraclass correlation coefficient shows that the estimated variability in the outcome is mostly from the individual-level at 98.08 %. The relevant reliability estimate was 0.721. While this is not highly reliable, it is deemed acceptable.

Next, a within-state or level-1 model in which only individual-level predictors are included was conducted. Individual tests were run to determine whether each independent variable produced a fixed or random effect. A fixed effect would signify that the effect is similar for each state, while a random effect would indicate that there is an effect, but it differs from state to state. The results confirmed that while a majority of the individual-level independent variables produced fixed effects, educational attainment, work status, and the dummy variable for moderate religion all proved to have random effects (at the 0.05 α level) upon the gender work role factor variable. Consequently, the level-1 model was run with these three independent variables as random effects and all others as fixed effects.

This individual-level model produced a number of useful results. For instance, it confirmed the ANOVA results that the states vary significantly across their gender role factor means. The average of the state gender role factor means is –0.156 with a standard error of 0.069 and a p-value of 0.028. The random effect p-values for educational attainment, work status, and the dummy variable for moderate religion were all statistically significant at the 0.05 α level, confirming that the relationships between these independent variables and the gender work factor variable within states varied across the population of states. The coefficient and p-value for all of the independent variables are available in Table 5.

Additionally, this test illustrated that 19.78 % of the variance is explained at the individual-level. A large majority of the individual-level variables were statistically significant in having an association with the gender work roles factor within states. Individuals' educational attainment and income level were both positively related to the dependent variable within states with the more educated and the more affluent the individuals, the more liberal the viewpoints regarding gender work roles.

Some independent-level control variables had positive relationships with the dependent variable within states as well. For instance, widowed, divorced, separated, and never married all had positive and statistically significant coefficients. Persons that were widowed, divorced, separated, or never married scored higher on the dependent variable than respondents that were married. Similarly, those who were female and working, or male and with a wife currently employed, had more liberal gender role factor scores than their respective counterparts. Mother's educational attainment and work status were positively related to the gender role factor within states. Persons residing in an area deemed as 'other' urban generally had more liberal beliefs than those that resided in a rural area. Finally, those whose religion was deemed moderate or liberal had higher dependent variable scores than those with a fundamentalist religious affiliation within states.

A few independent-level variables such as sex, race, age, church attendance, and missing income demonstrated a negative relationship with the gender role factor within states. As a result, on average, men had lower gender work roles factor scores, representing more traditional viewpoints, than women. Similarly, Whites tended to have lower dependent variable results than African-Americans. Additionally, older

respondents, those that attended church most often, and those that did not have family income data were most likely to hold traditional beliefs than their respective counterparts.

The variables denoting whether individuals were missing the religious affiliation categorization of fundamentalist, moderate, or liberal, the number of children under the age of 6 within the household, missing mother's education, and the urban/rural variables of the 12 largest MSAs and the 13 to 100 largest MSAs were found not to be statistically significant at the 0.05 α level in this model.

The results from the within states model are presented in Table 6.

Next, between state models were completed for each of the state-level or level-2 variables. Bivariate tests were run between each state-level variable and the gender work roles factor variable. All of the state-level independent variables were found to be statistically significant at 0.05 α level, leading to the rejection of the null hypothesis that each variable would not have an effect on the dependent variable between the states. The state household median income (logged), percent of the population that has received more than an associate's degree, percent of urban population, and percent of female labor force participation all had a positive relationship with the dependent variable. States with higher median household income (logged) had higher gender factor scores or less traditional attitudes toward women's work roles than states with lower median household incomes (logged). Similarly, residents within states with higher percentages of college graduates (more than an associate's), urban population, and female labor force participation tended to have more liberal viewpoints than those living in states with lower percentages of these variables. The percent of fundamentalists and the Southern status of

a state had negative effects on states' mean factor score. States with higher percentages of fundamentalists had lower scores or more traditional beliefs regarding women's work roles than states with lower percentages. Likewise, Southern states, defined as the former Confederate states, had lower dependent variable figures or more traditional viewpoints.

Table 6

Within State Model Results: GSS 1994 – 2002

Variable	Coefficient	Standard Error
Intercept	-0.156*	0.069
Education	0.117***	0.014
Income	0.067***	0.010
Sex	-0.352***	0.019
Race	-0.206***	0.028
Age (standardized)	-0.191***	0.013
Work status	0.226***	0.030
Missing income	-0.090*	0.038
Widowed	0.122**	0.045
Divorced	0.143***	0.031
Separated	0.181**	0.060
Never married	0.150***	0.023
Young children	-0.010	0.020
Moderate - religious affiliation	0.189***	0.034
Liberal - religious affiliation	0.210***	0.033
Missing - religious affiliation	0.022	0.051
Church attendance	-0.040***	0.006
Mother's work status when respondent was growing up	0.145***	0.020
Mother's education	0.010**	0.003
Missing respondent's mother's education	0.102†	0.053
City and suburbs of 12 largest MSAs	0.011	0.060
City and suburbs of 13-100 largest MSAs	0.022	0.045
All other urban	0.091*	0.041
1994	0.134**	0.040
1996	0.019	0.037
1998	0.055	0.035
2000	-0.077*	0.031

Note: Coefficients and Standard Errors have been rounded to nearest 1,000th.
Education, work status, and moderate religious affiliation were modeled as random effects.
†p <0.10 *p <0.05 **p <0.01 ***p <0.001

While all of the other level-2 independent variables were statistically significant in bivariate analyses, the percent of the population earning more than an associate's degree was the only variable to remain statistically significant when all the independent variables were placed into the state-level model simultaneously. States with higher percentages of college graduates (above an associate's degree) had higher gender factor means representing less traditional viewpoints than states with lower percentages of similar college graduates. Unlike Moore and Vanneman (2003), the percent of fundamentalists was not statistically significant in the level-2 model. The coefficients and level of significance for each independent variable for both bivariate and multivariate models are presented in Table 7.

Table 7

Between State Model Results: GSS 1994 – 2002

	Bivariate		Multiple	
Variable	Coefficient	Std. Error	Coefficient	Std. Error
State median household income (logged)	1.556***	0.319	-0.034	0.597
Percent received more than an associate's degree	0.023***	0.004	0.012*	0.006
Percent of urban population	0.005*	0.002	0.002	0.002
Percent of female labor force participation	0.023**	0.007	0.012	0.008
Percent of fundamentalists	-0.006***	0.001	-0.002	0.002
Southern status (former Confederate States)	-0.138*	0.052	0.014	0.060

Note: Coefficients have been rounded to nearest 1,000th.
*p <0.05 **p <0.01 ***p <0.001

Despite the fact that the college variable was the only one to be statistically significant in the multivariate between states model, a relatively large proportion of the level-2 variance is explained by the model. In fact, 63.10 % of the between state variance

is explained by the level-2 independent variables. Similar to the individual-level analysis, the reliability estimate is somewhat low at 0.522.

The final step in the multilevel analyses was to combine the individual- and state-level models into a hierarchical linear model to test whether the college effect between states is a contextual effect or simply due to the individual effects. States with higher percentages of college graduates (more than an associate's degree) may have more liberal views toward gender work roles because of the college graduates' more liberal views. Conversely, residents of these states may hold less traditional viewpoints whether they have a college degree or not because of the particular milieu.

None of the level-2 main effects were statistically significant in the full model. As a result, the researcher failed to reject the null hypothesis that the percent of college graduates (more than an associate's degree) had no contextual effect on the gender work roles factor variable after controlling for individual-level predictors. Therefore, it is assumed that the state-level effect found for the college variable was a compositional effect of the higher percent of college graduates within the state and not due to a cultural milieu.

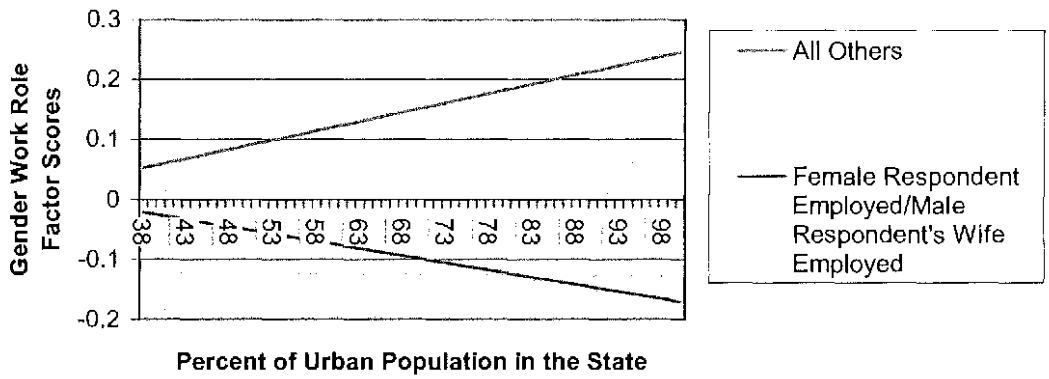
The vast majority of the coefficients and p-values for the level-1 independent variables remained very similar to those found in the within states model. The only exceptions were with the variables indicating missing data for mother's education and respondent's residence as 'other' urban. While missing mother's education was not found to be statistically significant in the level-1 model, it was statistically significant in the full model. Conversely, 'other' urban was no longer statistically significant in the full model although it had been in the individual-level model.

The only state-level tests that proved to be statistically significant in the full model was with respect to interaction with an individual-level variable that had random effects. There is a statistically significant relationship at the 0.10 α level between the percent of urban population and the slope of work status, even when controlling for the other state-level predictors. The relationship is negative, meaning that states with higher proportions of urban populations tend to have weaker work status slopes than states with lower proportions of urban population. By graphing the dependent gender work role variable by the individual-level work status and state-level percent of urban population, one can see that not only do the strength of the slopes differ, but so do the directions in which they lie. Respondents other than employed females and males with employed wives who resided in states with higher percentages of urban populations tended to have more liberal beliefs regarding gender work roles than similar respondents living in states with lower concentrations of urban populations. Conversely, employed female respondents and male respondents with an employed wife living in a state with smaller percentages of urban populations were more apt to hold less traditional viewpoints than similar respondents who resided in a state with higher percentages of urban populations. This trend is illustrated in Figure 1. The results of the full model are found in Table 8.

With none of the level-2 main effects being statistically significant in the full model, it is not surprising that little variance among the state gender factor means is explained when comparing the variance components from the individual-level model to the full model. In fact, only 8.24 % of the gender factor mean variance has been explained by the state-level predictors in the full model. Additionally, only 6.03 % of the education slope variance and 13.97 of the work status slope variance are explained in the

full model when compared to the individual-level model. Interestingly, the variance among the slope of moderate religious affiliation actually increased from the individual-level to the full model. In fact, the variance among the slopes of moderate religion increased by 50.43 %.

Figure 1: Gender Work Role Factor Scores as a Function of Individual Work Status and Percent Urban Population in the State



The reliability estimates have remained rather constant between the level-1, level-2, and full models. The reliability estimate for the intercept in the full model was 0.500 and the reliability estimates for the slopes of the random individual-level variables were 0.268 for education, 0.254 for work status, and 0.369 for moderate religious affiliation.

Table 8

Full Model Results: GSS 1994 – 2002

Variable	Coefficient	Standard Error
Intercept	-0.136†	0.071
State median household income (logged)	-0.337	1.030
Percent received more than an associate's degree	-0.003	0.011
Percent of urban population	0.006	0.004
Percent of female labor force participation	0.018	0.014
Percent of fundamentalists	-0.001	0.003
Southern status (former Confederate States)	-0.021	0.091
Education	0.134***	0.023
State median household income (logged)	-0.179	0.548
Percent received more than associate's degree	0.006	0.006
Percent of urban population	-0.003	0.002
Percent of female labor force participation	-0.008	0.007
Percent of fundamentalists	-0.002	0.002
Southern status (former Confederate States)	-0.037	0.047
Income	0.068***	0.013
Sex	-0.353***	0.023
Race	-0.207***	0.032
Age (standardized)	-0.191***	0.015
Work status	0.205***	0.043
State median household income (logged)	0.969	1.034
Percent received more than associate's degree	0.017	0.011
Percent of urban population	-0.008†	0.004
Percent of female labor force participation	-0.006	0.014
Percent of fundamentalists	-0.002	0.004
Southern status (former Confederate States)	0.072	0.091
Missing income	-0.091**	0.033
Widowed	0.127**	0.042
Divorced	0.145***	0.032
Separated	0.179**	0.056
Never married	0.149***	0.032
Young children	-0.011	0.021

Note: Coefficients have been rounded to nearest 1,000th. Education, moderate religious affiliation, and work status were modeled as random effects.
†p <0.10 *p <0.05 **p <0.01 ***p <0.001

Table 8 (Continued)

Full Model Results: GSS 1994 – 2002

Variable	Coefficient	Standard Error
Moderate - religious affiliation	0.178**	0.054
State median household income (logged)	-0.137	1.169
Percent received more than associate's degree	-0.002	0.013
Percent of urban population	0.001	0.005
Percent of female labor force participation	-0.006	0.017
Percent of fundamentalists	-0.000	0.004
Southern status (former Confederate States)	0.001	0.116
Liberal - religious affiliation	0.206***	0.030
Missing – religious affiliation	0.016	0.051
Church attendance	-0.040***	0.004
Mother's work status when respondent growing up	0.142***	0.023
Mother's education	0.010**	0.004
Missing respondent's mother's education	0.117**	0.052
City and suburbs of 12 largest MSAs	-0.001	0.045
City and suburbs of 13-100 largest MSAs	0.006	0.041
All other urban	0.072†	0.039
1994	0.133**	0.038
1996	0.020	0.037
1998	0.055	0.039
2000	-0.077*	0.039

Note: Coefficients have been rounded to nearest 1,000th. Education, moderate religious affiliation, and work status were modeled as random effects.
†p <0.10 *p <0.05 **p <0.01 ***p <0.001

Ancillary Analyses

Some ancillary analyses were conducted during this research process to test for possible explanations to the primary findings. First, scattergrams were produced for each of the state-level independent variables to determine whether any outliers existed among the states. Upon examination of these scattergrams, the District of Columbia had relatively higher percentages of African Americans, males and females with more than an associate's degree, and never married individuals than the other states. Multiple regressions were rerun in SPSS at the state-level with District of Columbia omitted from

the data. None of the state-level predictors were statistically significant, including college, results that were consistent with those produced when the District of Columbia was included.

It was also hypothesized that state means of gender factor scores between men and women may be significantly different and therefore skew the overall findings. In order to test this hypothesis, gender factor means were calculated for males and females as well as the difference between the two for each state. Multiple regressions were then run in SPSS with the difference between males and females as the dependent variable and state-level variables as the independent variables. While previous individual-level tests had shown that male and female respondents' gender work role attitudes varied significantly within the states, the results of the multiple regressions indicated that the difference scores calculated at the state-level did not differ significantly between states and, therefore, none of the state-level variables predicted the difference in the dependent variable means.

Another supplemental analysis was conducted in order to test whether state-level effects other than college would be statistically significant for Whites only, particularly since Moore and Vanneman (2003) found state-level effects for a Whites only sample. Preliminary multiple regressions results between state-level predictors and the gender factor variable were very similar for the Whites only sample as the original sample that included both Whites and African Americans. The percent of college graduates (more than an associate's degree) was the only state-level variable to be statistically significant at the 0.05 α level.

Chapter 5: Discussion

The findings from this research are twofold. First, the results from the individual-level model have reconfirmed much of the established gender role studies examining the individual characteristics that influence one's gender role attitudes. Many of the demographic and socioeconomic factors such as gender, race, marital status, age, education, and income continue to be driving forces of people's gender work role beliefs. Additionally, religious affiliation as well as mother's education and prior work status, which have also been proven to have effects upon gender work role attitudes, were also statistically significant in the individual-level model. Not only did these findings concur with past research examining individual-level variables, but they also illustrated that an overwhelming majority of the variance found in the gender work role variable was at the individual-level and not the state-level.

This study also concurred with Moore and Vanneman's (2003) results in that the percentage of college graduates within the state did not have a contextual effect on gender role attitudes. Although it was hypothesized that a stronger educational predictor, more than an associate's degree rather than merely some college, would produce statistically significant contextual results, this was not the case. In fact, the statistical model illustrated that neither median household income nor any of the state-level control variables predicted the gender work role attitudes. The only statistically significant finding in the full model was the interaction between the state-level percent of urban population and individual-level work status. In other words, the effect work status has

upon gender work role beliefs is dependent upon the percent of urban population within the state.

Although this study concurred in some ways with past research, this research has contradicted some of the contextual effects findings of Moore and Vanneman (2003). While they discovered religious fundamentalism to have a contextual effect, the current findings from this paper failed to find such effects of fundamentalism nor any other examined state-level variable. There are several possible explanations for the contradictory contextual effects findings.

First, the dependent variable was measured differently between the two studies, leading to the distinct possibility that results may have varied dependent upon the way in which gender roles were defined. While the Moore and Vanneman (2003) study examined gender role attitudes that included both political and work related questions, this project focused on gender role items that were associated more to gender work roles. It is possible that contextual effects exist for beliefs regarding women's roles in politics more so than in the workplace and that these effects dominated the results of Moore and Vanneman.

Additionally, there were slight differences between this research and the Moore and Vanneman (2003) study in terms of some of the individual-level and state-level variables included in the models. For example, this gender role research incorporated individual-level maternal data such as mother's work status while the respondent was growing up and mother's educational attainment into the analyses. Moreover, a state-level income variable, mean household income, was included in this project while there was no such predictor in the Moore and Vanneman statistical models. The inclusion of

these variables may have contributed to the lack of statistically significant findings at the state-level. In fact, Hauser (1970) refuted contextual theory on the basis that any contextual effect can be explained by a more comprehensive group of individual-level variables (Moore & Vanneman).

Another possible source of the discrepancies has the time frames in which the data were originally collected. The Moore and Vanneman (2003) study utilized GSS data from 1985 to 1996, while this gender work role research analyzed GSS from 1994 to 2002. These data sets generally represent 2 decades with some overlap. Additionally, the state-level data were from two different time periods, 1990 for the Moore and Vanneman research and 2000 for this study. The lack of statistically significant contextual effects on gender work role attitudes may indicate that while there may have been such effects between the mid 1980s to mid 1990s, contextual effects may no longer exist. The primary finding from Moore and Vanneman was that fundamentalism presented contextual effects. It is possible that religious affiliation no longer has the same effects upon gender role attitudes that it did during the time frame Moore and Vanneman analyzed. While an individual's religious preference may lead him or her to hold more traditional gender work role beliefs, the cultural milieu may have lost its influence over individual's attitudes. This may be especially true in regards to women's role in the workplace given the percentage of women currently working and the economic necessity for many females to enter the workforce.

Additionally, a shift may have occurred, or is in the process of occurring, in the belief systems of some fundamentalist religious groups. This too may be related to the economics of the United States in that many women have had to move into the workforce

out of necessity. While some fundamentalists may believe that women should hold more traditional roles in an ideal world, they may have come to the conclusion that this is not always possible in reality. Such a compromise in the belief system may lead to traditional gender work roles being less of an issue and allow for more liberal attitudes to form. In fact, Fan and Marini (2000) identify such a trend as a possible explanation as to why they did not find religious affiliation nor religious attendance to be statistically significant in shaping the gender role beliefs of youth. As they note, "they are no longer a significant influence on the gender-role attitudes of youth, either because the content of religious teaching has changed or because this aspect of religious teaching no longer has an effect" (p. 280).

The racial compositions of the samples used in the Moore and Vanneman (2003) and present research also varied, possibly explaining the contrasting contextual effects findings. This particular research included both Whites and African Americans in the sample, while Moore and Vanneman restricted their analyses to only Whites due to their focus on the effects of fundamentalism on gender roles. It is plausible that a sample of only Whites or one of solely African Americans may produce contextual effects. This explanation, however, may be the least reasonable as preliminary research in this project did not find fundamentalism to be statistically significant for a sample of only Whites. Finally, it is possible that the differing findings are a result of any combination of these aforementioned factors.

Chapter 6: Conclusions

The finding that education and income do not produce contextual effects for gender work role attitudes implies that such beliefs cannot be changed at the state-level, only at the individual-level. The existence of strictly traditional gender work role attitudes can have negative consequences for women. For example, if people occupying positions of power hold such beliefs, their decisions and actions can have detrimental consequences for the progress of women in the workforce and ultimately in life.

While the findings of this research add to the understanding of gender work role beliefs, there are some limitations that must be addressed. For example, preliminary analyses uncovered potential self-selection biases within the GSS sample of respondents. Respondents that had missing data for one or more of the questions that formed the dependent gender work role factor variable varied on several characteristics from those that did not have missing information. In comparing the two groups of survey respondents, it was found that they differed significantly by age, educational attainment, their mother's educational attainment, and the frequency of church attendance. Additionally, men, widowers, those other than employed females or husbands with working wives, those other than who lived with their mother who was employed, those missing family income, those missing information on their mother's educational attainment, and respondents residing in a suburb or city of one of the 12 largest MSAs were less apt to respond to the items that created the dependent variable than their counterparts. Consequently, groups with these particular characteristics that are less

likely to respond to the questions will not be entirely represented in the analyses, presenting the possibility of skewed results.

Researchers have criticized the particular GSS items that were used in creating the dependent factor variable for this project, presenting another limitation of the research (Brewster & Padavic, 2000; Mason & Lu, 1988; Rindfuss et al., 1996). Specifically, the GSS statement, "A preschool child is likely to suffer if his or her mother works" is ambiguous by leaving the word 'suffer' undefined or explained. "A working mother can establish just as warm and secure a relationship with her children as a mother who does not work" does not specify ages for the children and implies that only mothers who are in the paid labor force actually work. Finally, while it was not the intention of this research to focus solely on working mothers, the GSS item, "It is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family," is ambiguous as 'family' may or may not include children (Brewster & Padavic, 2000). Such research limitations can result in misleading and erroneous conclusions, and, therefore, must be acknowledged.

Future research analyzing contextual effects upon gender role attitudes should continue to utilize the more sophisticated program of HLM to ensure precise calculation of possible contextual effects. Also, it would be interesting to investigate possible contextual effects at a smaller level-2 unit, such as county rather than at the state-level. Contextual effects may be lost in projects utilizing state-level data due to the variation within states. However, research examining gender role attitudes at a more minute level-2 unit is not currently possible, to my knowledge, as such data is not available. While much research has been conducted on gender work roles and women have made

tremendous progress over the past several decades, there is still much at stake and much more to learn.

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